REMARKS

Claims 1-68 and 82-94 are cancelled; and claims 69-81 remain pending in the application.

The pending claims stand rejected over Tonti, Zheng, Taylor and Lee, in various combinations. Applicant requests reconsideration of such rejections.

The independent claims pending in the application (claims 69 and 81) recite constructions containing PMOS gates and NMOS gates which each comprise n-type doped silicon over metal-containing materials, with the metal-containing material of the PMOS gate being thicker than that of the NMOS gate. Specifically, the claims recite that the PMOS gate has metal-containing material with a thickness of greater than 20Å, while the NMOS gate has metal-containing material with a thickness of less than or equal to about 20Å.

Claims 69 and 81 are rejected as being unpatentable over Tonti in view of Zheng. Applicant respectfully submits that the combination of Tonti and Zheng does not teach the recited subject matter of claims 69 and 81 of PMOS gates and NMOS gates each comprising n-type doped silicon over metal-containing materials, with the metal-containing material of the PMOS gate being thicker than that of the NMOS gate.

The Examiner cites Tonti to show that n-type doped semiconductor material can be utilized in both PMOS gates and NMOS gates together with metal-containing materials. The Examiner notes that Tonti does not expressly disclose that the metal-containing material utilized in the PMOS gate is thicker than that utilized in the NMOS gate.

Accordingly, the Examiner cites Zheng for showing constructions in which thicknesses of metal-containing materials vary from one transistor gate to another.

Applicant respectfully submits, however, that the cited combination of Tonti with Zheng does not suggest the recited structures of claims 69 and 81 in which PMOS gates and NMOS gates both comprise n-type doped silicon, and in which the PMOS gate has thicker metal-containing material than the NMOS gate.

Applicant notes that the metal-containing materials of Zheng are specifically disclosed to replace doped silicon to eliminate a poly depletion effect, and to also substantially prevent impurity diffusion into a gate dielectric (see, for example, col. 1, lines 63-67; col. 4, lines 59-63; col. 7, lines 41-59; and the Abstract of Zheng; all of which indicate that the transistor gates of Zheng do not comprise conductively-doped silicon, but rather comprise only metal-containing materials).

A person of ordinary skill in the art looking toward Zheng in combination with Tonti would not draw any conclusion that the metal-containing materials of Zheng having differing thicknesses between transistor gates can reasonably be utilized in the transistor devices of Tonti. The transistor devices of Tonti are expressly disclosed to contain metal-containing materials in combination with doped silicon, and the transistor devices of Zheng are specifically disclosed as being utilized to eliminate conductively-doped silicon from transistor gates. Nothing within the references of Zheng or Tonti suggests that the metal-containing materials of Zheng could be substituted for the metal-containing materials of Tonti, and in fact Zheng teaches against such substitution. Rather, Zheng teaches that the metal-containing materials disclosed therein are to be utilized in the absence of silicon, and

accordingly teaches against utilization of such metal-containing materials in structures of the type disclosed in Tonti which contain conductively-doped silicon.

Since the utilization of the metal-containing materials of Zheng within silicon-containing gates of the type disclosed in Tonti is specifically taught against by the reference of Zheng, a person of ordinary skill in the art would not find motivation to utilize the metal-containing materials of Zheng in gate structures of the type disclosed in Tonti.

The Examiner contends that it would be obvious for one of skill in the art to provide the layers disclosed in Zheng for the device of Tonti for the purpose of enhancing the work function and performance of the devices, and cites Zheng, col. 4, lines 63-67 and col's. 5-6 to support such conclusion. Applicant notes, however, that Zheng repeatedly indicates that the materials disclosed therein enhance device performance because such materials enable doped silicon to be eliminated from the devices. Accordingly, Zheng is not supporting the Examiner's contention that it would be obvious to utilize the layers provided in Zheng for the device of Tonti.

For the reasons discussed above, the cited combination of Tonti and Zheng does not render the subject matter of claims 69 and 81 obvious, and Applicant therefore requests allowance of claims 69 and 81 over such references in the Examiner's next action.

The remaining claims 70-80 depend from claim 69, and are therefore allowable for at least the reasons discussed above regarding claim 69, as well as for their own recited features. Applicant notes that the cited references of Lee and Taylor are utilized by the Examiner to show specific features of some of the dependent claims, and that such

references do not cure the above-discussed defects of Zheng and Tonti for disclosing the subject matter of independent claim 69. Accordingly, the pending claims are allowable over any combination of Zheng and Tonti with the Examiner's other cited references.

Claims 69-81 are allowable for the reasons discussed above, and Applicant therefore requests formal allowance of such claims in the Examiner's next action.

Respectfully submitted,

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David G. Latwesen, Ph.D.
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